Tribal And NWIFC Wild Salmon Recovery Efforts: Federal Funds At Work

A Report To Congress
From The Treaty Indian Tribes
In Western Washington
FY 2002

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Cover: Wild sockeye salmon await spawning as part of a supplementation project on a tributary to Lake Quinault on the Olympic Peninsula in western Washington. Photo: Debbie Preston, NWIFC

Foreword

Steven Penn, a Hoh tribal member, hauls in his net while fishing the Hoh River on the Olympic Peninsula. Photo: D. Preston

This report outlines activities, accomplishments and additional funding needed for ongoing tribal efforts to recover wild salmon stocks with the aid of Congressional appropriations for three major initiatives: The Timber/Fish/Wildlife (TFW) Forests and Fish Report (FFR); Hatchery Reform; and the Pacific Coastal Salmon Recovery Program.

For FY 2002, Congress appropriated a total of $4 million for hatchery reform efforts in western Washington, with western Washington treaty Indian tribes receiving $1.009 million of that amount. A total of $110 million was appropriated for the Pacific Coastal Salmon Recovery Program, of which western Washington treaty tribes received $9 million. For statewide tribal participation in the TFW/FFR initiative, Congress appropriated $3.048 million.

Given the tribes' status as co-managers of the salmon resource with the State of Washington and the federal government, full tribal participation is required in virtually all phases of natural resource management. Because the life history of salmon includes both fresh and saltwater phases – and because all natural resources are interconnected – the complexity of salmon management is compounded by many water and land-use decisions. Forest practices affecting wild salmon habitat, hatchery practices affecting the genetic integrity of wild salmon, and fisheries management actions affecting sustainable harvests are all key elements that must be addressed to achieve recovery.

The salmon's biological needs are straightforward: an adequate supply of clean water, properly functioning spawning and rearing habitat, access to and from the sea, and a sufficient number of adult salmon returning to spawn. Providing these basic requirements, however, is the most difficult environmental, economic, political and social challenge ever faced by the Pacific Northwest.

The tribes know that the battle to save the salmon cannot be fought alone. Only through cooperation and a shared vision for salmon recovery by tribal, state, federal and local governments, industry, conservation organizations and the public will wild salmon be restored. All are participants in a "Shared Strategy" for salmon recovery now being implemented in the State of Washington. The Shared Strategy – aimed at protecting all salmon stocks in western Washington – has been endorsed by the National Marine Fisheries Service to develop recovery plans for Puget Sound and coastal salmon stocks listed as "threatened" under the Endangered Species Act.

A chronic lack of funding has taught tribes to become highly effective at making each federal appropriation dollar work to its fullest. In a spirit of cooperative natural resource management that has prevailed in Washington since the 1980s, the tribes effectively partner with governments, agencies, organizations and others to achieve the most efficient and effective use of limited federal funding. Tribes also integrate efforts inter-tribally, naturally grouping efforts in shared watersheds. Tribes further coordinate their efforts through tribal organizations such as the Northwest Indian Fisheries Commission, Skagit System Cooperative and Point No Point Treaty Council.

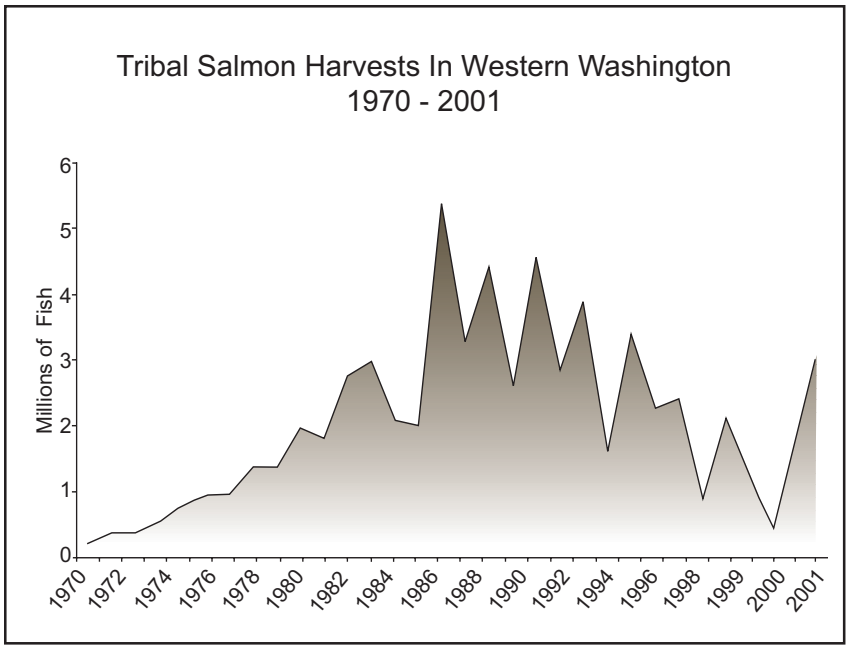
Wild salmon recovery in Washington simply will not occur without meaningful participation by the treaty tribes. No one else knows the salmon like the tribes. No group has a higher stake in ensuring the species' survival than a people who depend on the salmon for their spiritual, cultural and economic survival.

Introduction

Indian tribes have always lived on every major watershed in what is now the State of Washington. From time immemorial, tribal cultures have centered on fishing, hunting and gathering the natural resources of this region.

In the mid-1850s, when the United States government sought land in the Pacific Northwest for non-Indian settlers, treaties were signed with the tribes which guaranteed the tribal right to harvest salmon in all of the places where they had traditionally fished. That promise was broken in the decades that followed, until the federal district court in 1974 reaffirmed the tribal treaty right in *U.S. vs. Washington*. The ruling, upheld by the U.S. Supreme Court, established the tribes as co-managers of the resource entitled to half of the harvestable number of salmon passing through their traditional fishing areas.

Today, the wild salmon upon which the tribes depend are disappearing. Habitat destruction and degradation from over a century of timber harvesting, dam construction, loss of instream flows, past overharvesting, over-dependence on hatcheries and other factors have all contributed to the decline of wild salmon. Over the past 25 years a huge population influx around the Puget Sound has accelerated the loss and degradation of what remains of the region's once highly productive salmon habitat.



In the spring of 1999, the National Marine Fisheries Service listed three western Washington salmon stocks – Puget Sound chinook, Hood Canal/Eastern Strait of Juan de Fuca summer chum, and Lake Ozette sockeye – as "threatened" under the Endangered Species Act. The ESA is a law of last resort to save distressed species from extinction, protecting not only listed salmon but also their habitat. The listing was the first of a species that resides in a heavily urbanized area such as Puget Sound, and has placed massive new responsibilities on the treaty tribes as co-managers of the salmon resource.

While the ESA is neither the starting point nor end point for salmon recovery, it is now the filter through which potentially harmful activities are evaluated as individuals, corporations, industries and governments seek to move forward on development plans in a manner consistent with the ESA and the needs of salmon.

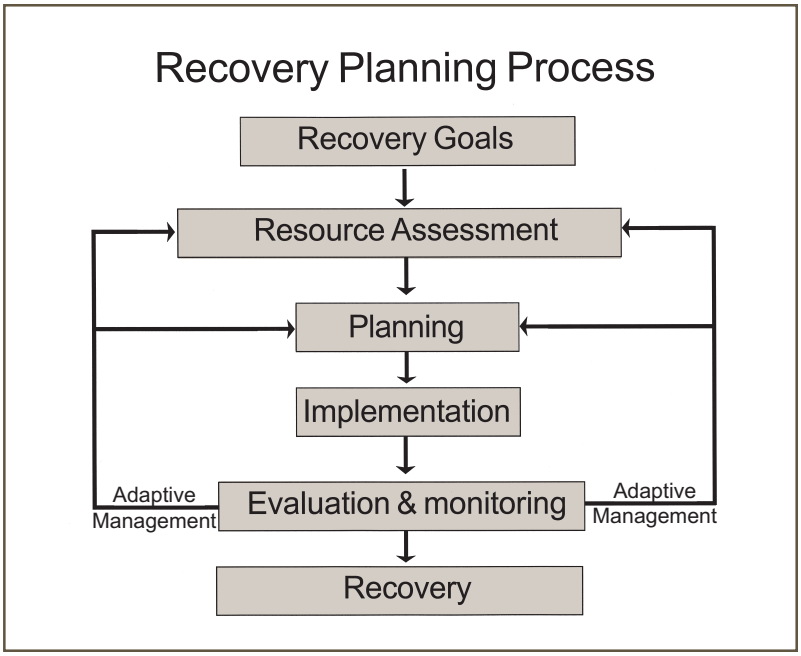
Over the past two decades, in response to dwindling populations and reflecting a commitment to sustainable fisheries, tribes and the state have worked together to reduce their harvest of salmon by 75 percent. Improved ocean conditions have contributed to larger returns in the past couple of years. However, declining wild salmon production caused by lost and degraded habitat continues to supress the overall trend for wild salmon populations.

More recently, many local governments have begun developing strategies to meet the needs of people and salmon at the watershed level, and several large landowners and industry sectors are stepping forward to pioneer better ways to achieve business objectives while protecting and restoring functioning ecosystems that support salmon.

A Shared Strategy For Salmon Recovery

In the fall of 1999, over 200 tribal, federal, state and local leaders met to discuss the salmon crisis. They identified common goals for wild salmon and worked to find ways to achieve those goals. Their vision is clear: healthy ecosystems to produce and support wild salmon at a level that will once again sustain commercial, ceremonial and subsistence harvest. However, without a common approach to achieve that goal, recovery and protection of wild salmon and their habitats will not be achieved.

The Shared Strategy reflects the following core elements necessary to protect and restore wild salmon and their habitats. They include:



- Sound science to guide and measure recovery efforts;
- Clear and common goals to unite local, regional and national commitments;
- Effective planning to develop integrated, efficient methods of achieving shared goals;
- Successful actions to protect and restore wild salmon populations;
- Accurate monitoring to ensure progress and accountability; and
- Sufficient funding support to sustain protection and restoration efforts of the key participants.

The Shared Strategy is not a top-down approach to wild salmon recovery, but rather a cooperative effort that links ongoing wild salmon recovery initiatives at the tribal, state, federal and local levels to create a plan that is viable and cost-effective. It establishes, organizes and manages these links; identifies necessary long and short-term actions and coordinates funding needs; and proposes laws or policies needed to support wild salmon recovery.

Key to the Shared Strategy's potential for success is the endorsement and participation in the process by the National Marine Fisheries Service (NMFS), the federal agency responsible for implementing the ESA and for overseeing recovery efforts for listed species.

In the past three years, much has been accomplished. An outline of the recovery plan has been prepared, implementation guidelines for watersheds have been created, and planning targets have or are currently being developed for individual populations of chinook within the Evolutionary Significant Unit identified in the Puget Sound chinook ESA listing.

Meanwhile, the many other ongoing efforts contributing to wild salmon recovery will continue. The Salmon and Steelhead Habitat Inventory and Assessment Project (SSHIAP) is an example. Begun in 1995 by the tribes and Washington Department of Fish and Wildlife, SSHIAP has helped document past and current habitat conditions; assess the role of habitat loss and degradation on the condition of wild salmon and steelhead stocks; and aid in the development of stock- or watershed-specific strategies for habitat protection and restoration.

Tribal Natural Resource Management
FY 2004 Needs Assessment

Ongoing Wild Salmon Recovery Programs And Current Overall Congressional Funding Levels	**Source**	**FY2002 Level/ Base**	**FY 2004 Congressional Request Level/Need**
Hatchery Reform ($4 million)	DOI/FWS or BIA	$1.009 million to tribes/NWIFC	FY 2002 level/base of $1.009 million with $6 millon for hatchery retrofit
Coastal Salmon Recovery ($110 million)	DOC/NMFS	$9 million to tribes/NWIFC	FY 2002 level/base of $9 million
Forest & Fish Report ($3.048 million)	DOI/BIA	$3.048 million to tribes/NWIFC	FY 2002 level/base of $3.048 million
Wild Stock Restoration Initiative/SSHIAP ($400,000)	DOI/BIA	$400,000 to NWIFC	FY 2002 level/base + $500,000
Coordinated Tribal Water Quality ($0)	EPA	$0	Language to restore $700,000 level/base to tribes + $2.4 million for program development
Emerging Needs Programs			
Water Resources Management ($0)	DOI	$0	$3.72 million
Agricultural Practices ($0)	DOA/FSA	$0	$1.87 million
Shoreline Rules ($0)	DOC/NOS	$0	$120,000
NEPA Compliance ($250,000)	DOI/BIA	$250,000	$1 million

The goal of the treaty Indian tribes in western Washington is to achieve salmon recovery for all depressed salmon stocks in all areas. Tribes are focusing their regional salmon recovery efforts through the Shared Strategy because – with the endorsement and participation by the National Marine Fisheries Service – it provides the best chance to reach that goal. The Shared Strategy does not seek to control or re-invent ongoing efforts such as SSHIAP, but rather to nurture them through links to appropriate common goals and regional decisions. As a result, salmon recovery momentum fostered through these comprehensive, cooperative efforts will be expanded and propelled through the Shared Strategy.

Funding Coordination And Accountability

The Northwest Indian Fisheries Commission (NWIFC) serves as the coordinator for funding provided for the Timber/Fish/Wildlife (TFW) Forests and Fish Report; Hatchery Reform; and Pacific Coast Salmon Recovery initiatives. This is a critical role that can only be performed by the NWIFC as an arm of the tribes.

The NWIFC was created in 1974 by tribes party to the *U.S. vs. Washington* litigation that re-affirmed tribal treaty-reserved rights and established the tribes as co-managers of the salmon resource with the State of Washington. Assisting member tribes in conducting biologically sound fisheries and providing a unified voice on fisheries management and conservation issues is the mission of the NWIFC. Member tribes are Nisqually, Squaxin Island, Puyallup, Jamestown S'Klallam, Port Gamble S'Klallam, Lower Elwha Klallam, Skokomish, Swinomish, Sauk-Suiattle, Upper Skagit, Tulalip, Makah, Stillaguamish, Muckleshoot, Suquamish, Nooksack, Lummi, Quinault and Quileute.

The NWIFC employs about 70 full-time employees in its Administration, Fishery Services, Habitat Services and Information and Education Services Division. Most commission staff provide direct services to member tribes – ranging from fish health to statistical analysis – bringing together professional experts in an economy of scale that enables tribes to efficiently utilize limited federal funding. Employing sound project management techniques, the NWIFC provides coordination and technical services that help tribes make the most efficient possible use of salmon restoration funding.

The NWIFC has a solid record of effective coordination and representation. Mature grant contracts which the commission administers annually for member tribes include the $1.7 million Western Washington Boldt Case Area Funds, the $1.6 million U.S./Canada Pacific Salmon Treaty Contract, and the $109,000 Timber/Fish/Wildlife Contract, as well as a number of one- to three-year project-specific grants.

Conclusion

Wild salmon recovery is the primary goal of the treaty Indian tribes in western Washington. The tribes will not cease their efforts until wild salmon populations recover to levels that can sustain harvest by both Indian and non-Indian fishermen. Wild salmon populations did not decline overnight, and their recovery will be neither quick nor easy. It will take cooperation, much hard work, adequate funding and time to return their numbers to abundance.

It is with great pride that I can report communities across Washington State are enjoying great progress in their efforts to recover salmon. Early federal funding for salmon recovery laid the foundation for success by leveraging financial resources from state and local governments, tribes and the private sector. I understand that difficult economic times demand a fresh look at all federal investments, but pulling back now would undermine hard-earned confidence in the recovery process and prompt a domino effect of divestment from state and local governments and private funding partners.

We are on the verge of turning the corner to recover salmon, and favorable ocean conditions over the next few years provide a window of opportunity to build on our success. Our strategy to achieve long-term recovery has three major components: 1) build the infrastructure at the watershed level to involve communities directly in understanding their watersheds and fish needs and develop consensus for how to best protect and restore habitat; 2) identify and implement changes in habitat, hatchery and harvest practices that improve immediate and long term conditions for fish; and 3) develop regional recovery plans and the commitments to implement them at the local watershed level in partnership with regional, state, tribal and federal entities.

Our progress would not be possible without the support of your department and other federal agencies. NMFS managers and staff are working in partnership with state officials, tribes and local communities to establish clear and consistent standards for recovery while allowing us a great deal of latitude to customize our strategy. Funding through your agency has also been instrumental in leveraging matching state, tribal, and local funding that has significantly exceeded the federal investment.

I believe we are on the threshold of major success for the Endangered Species program for listed salmon in Puget Sound: a recovery program that will rebuild a challenging species in a complex region and enjoy broad support from a diverse group of grassroots stakeholders, governments, tribes, environmental groups, and the business community. Continued federal support at the current level will assure we sustain the programs and infrastructure that make this collaborative process possible. I look forward to continuing our partnership with your department to demonstrate the potential of this new approach to species recovery.

Excerpt From Letter To
Don Evans, Secretary Of Commerce
By William D. Ruckelshaus,
Chair, Washington State Salmon Recovery Funding Board
Nov. 11, 2002

Pacific Coastal Salmon Recovery Program

Introduction

Congress created the Pacific Coastal Salmon Recovery Program (PCSRP) in 2000 to provide much-needed assistance to tribes as participants in growing salmon recovery efforts in the region. Recognizing the need for flexibility among tribes to respond to salmon recovery priorities in their watersheds, Congress earmarked the funds for salmon habitat restoration, salmon stock enhancement, salmon research, and implementation of the 1999 Pacific Salmon Treaty Agreement and related agreements. This report summarizes the important work these much-needed funds are supporting to restore healthy and wild salmon runs to western Washington.

Policy Development

Wild salmon have always been vital to sustaining tribal cultures and economies, a fact that is no less true today than it was in the 1850s when the tribes' treaties were negotiated with the United States. Because of the central role salmon play in the health of their communities, the tribes secured the continued right to harvest wild salmon in exchange for vast lands and resources now enjoyed by millions of non-Indians. While unequivocally affirmed by the U.S. Supreme Court, the United States' treaty promises ring increasingly hollow as wild salmon continue to disappear from the Pacific Northwest.

Past over-harvesting and over-dependence on hatcheries have contributed to the disappearance of wild salmon. Tribes have worked diligently to over the past three decades to improve and reform harvest and hatchery management. These efforts have been successful in slowing the loss of wild salmon, but stocks have not – and cannot – rebound with these actions alone. Experts have concluded that loss and degradation of freshwater and estuarine spawning and rearing habitat in the tribes' ceded territory have been, and continue to be, the major causes of decline.

Habitat degradation began over a century ago, but over the past 30 years a huge population influx around the Puget Sound – with its accompanying development, pollution, and increased demand for water – has begun to decimate much of what remains of the region's once highly productive salmon habitat. Growth in the region is expected to continue, creating the urgent need to take meaningful steps to protect and restore ecosystems that support salmon and other life.

In March 1999, Puget Sound chinook, Hood Canal/Strait of Juan de Fuca summer chum and Lake Ozette sockeye salmon were listed as 'threatened" under the Endangered Species Act (ESA). Today, salmon restoration efforts in western Washington – indeed, all salmon management here – must be conducted with the ESA as its backdrop.

The ESA is the filter through which must pass all salmon recovery plans in western Washington. The ESA isn't the starting point for salmon restoration – the state and tribes have been working on restoration efforts for decades. Nor is ESA the end point. Tribal salmon restoration efforts won't conclude until there are healthy wild fish populations to support harvest by both Indian and non-Indian fishermen.

Western Washington tribes are leaders in the salmon recovery effort. The tribes possess the legal authority, technical and policy expertise, and effective programs to address impacts on wild salmon from harvest and hatcheries. Over the past three decades, in response to dwindling populations and a commitment to sustainable fisheries, the tribes and State of Washington have worked together as co-managers of the resource, modifying and reducing harvests to protect individual populations of salmon. Harvest levels have been cut dramatically – by as much as 80-90 percent in some cases – at great cost to the spiritual, cultural and economic well-being of the tribes. Harvest reductions alone, however, cannot make up for the loss of wild salmon production caused by lost and degraded spawning and rearing habitat.

Through hatchery reform efforts now under way, the treaty tribes and State of Washington are drawing upon state-of-the-art science to minimize the impacts of artificial propagation on wild salmon. For each of their chinook hatcheries, tribes have completed Hatchery Genetic Management Plans. These plans, along with those completed by the Washington Department of Fish and Wildlife for its chinook hatcheries, form the basis of a conservation plan that the National Marine Fisheries Service will consider for Section 4(d) coverage under the Endangered Species Act. Section 4(d) prohibits taking a listed salmon or steelhead, except in cases where the take is associated with an approved program.

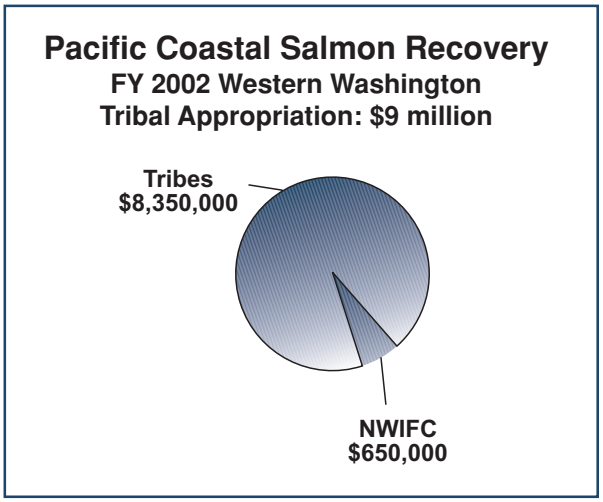
Tribal governments have made strides to protect salmon habitat, both on their reservations through land-use and water resource authorities and off-reservation by collaborating with non-Indian neighbors to protect and restore watersheds that support salmon.

At the forefront of the struggle for salmon recovery in western Washington is the Shared Strategy. This three-year-old effort by tribal, federal, state and local governments and private sector leaders is aimed at creating healthy ecosystems to produce and support wild salmon at a level that will once again sustain commercial, ceremonial and subsistence harvest.

The Shared Strategy is not a top-down approach to wild salmon recovery, but rather a cooperative effort that links ongoing wild salmon recovery initiatives at the tribal, state, federal and local levels to create a plan that is viable and cost-effective. It establishes, organizes and manages these links; identifies necessary long and short-term actions and coordinates funding needs; and proposes laws or policies needed to support wild salmon recovery. Much has been accomplished. An outline of the recovery plan has been prepared, implementation guidelines for watersheds have been created, and planning targets have or are currently being developed for individual populations of chinook within the Evolutionary Significant Unit identified in the Puget Sound chinook ESA listing.

Key to the Shared Strategy's potential for success is the endorsement and participation in the process by the National Marine Fisheries Service (NMFS), the federal agency responsible for implementing the ESA and for overseeing recovery efforts for listed species.

Despite these efforts, however, the tribes' salmon recovery strategies continue to be hamstrung by insufficient resources. With listings of the tribes' treaty protected salmon under the Endangered Species Act, the region's recovery activities threaten to overwhelm tribal resources. The tribes' meaningful participation in these complex and resource-intensive efforts to protect and restore treaty-protected salmon resources is critical to their success.



Funding Distribution

In FY 2002, western Washington treaty Indian tribes received $9 million in PCSRP funding for their continued participation in salmon recovery efforts. Each of the 20 tribes received $417,500, with $650,000 earmarked by the tribes for coordinating efforts by the NWIFC.

FY 2002 Allocation Of Pacific Coastal Salmon Recovery Program Funds

States	Washington $34 million	Oregon $17 million	Alaska $27 million	California $17 million
Sub-Total	**$95 million**			
Tribes	Columbia River $4 million	**U.S. v. Wash. Case Area $9 million**		Other Pacific Coastal Tribes $2 million
Sub Total:	$15 million			
Total:	**$110 million**			

As of this writing, Congress had not yet appropriated funding for FY 2003. The tribes are seeking at least status quo funding of $9 million for this fiscal year.

Working closely with NMFS, the tribes have established efficient application and reporting requirements through the NWIFC to ensure accountability and the achievement of Congressional and tribal salmon recovery goals.

Implementation

Consistent with Congressional intent, salmon recovery funding agreements allow the tribes flexibility in identifying for themselves salmon recovery priorities for tribal watersheds, governments and communities. At the same time, the tribes' efforts are connected through the NWIFC by overall strategies and efforts to most efficiently and effectively advance western Washington salmon recovery efforts. The NWIFC has re-directed resources and is using its base capabilities in a manner that advances these initiatives. Tribal proposals are reviewed and monitored by NWIFC technical and policy staff to ensure each provides sustainable and measurable benefits for salmon and their habitats. In addition, local and regional recovery efforts are analyzed and tracked to support the tribes' participation in shaping the direction of salmon recovery. It is on these two levels – the local level where watershed protections and improvements are being established to restore salmon and salmon habitat, and the regional level where state, federal and tribal leaders are collaborating to define goals and develop regional strategies – where salmon recovery is playing out in western Washington.

Accomplishments

Because each tribe has slightly different staffing patterns, due in part to differential funding, historic fishing practices and geography, each tribe is utilizing the funding in ways unique to its needs. Some tribes are using the monies to supplement ongoing salmon recovery efforts, while others are undertaking new projects to protect, preserve and enhance the salmon resource.

Following are several examples of some tribal salmon recovery projects being conducted with FY 2002 Pacific Coastal Salmon Recovery funds. Most tribal salmon recovery efforts are conducted in cooperation with state, local, federal of private sector entities to more effectively utilize limited tribal resources. All are part of comprehensive programs being conducted by the tribes to achieve wild salmon recovery.

Tulalip Tribes:

Water Quality Monitoring On
Tulalip, Battle And Quil Ceda Creeks

Harvey Eastman, director of the Tulalip Tribes' water quality program, gathers data from a creek. Photo: J. Shaw

Tulalip tribal members rely on fish and shellfish for cultural, spiritual and economic purposes. More importantly, they rely on the streams, rivers and marine waters of the region to sustain themselves. Protecting water resources on the reservation is vital to the Tulalip Tribes' way of life.

Buoyed by Coastal Salmon Recovery funding, the Tulalip water quality program works to preserve and protect the fresh and marine waters of the reservation. Pacific Coastal Salmon Recovery Program funding assists the program in measuring the health of these aquatic systems with the latest technology.

Harvey Eastman, director of the program, uses cutting edge technology and good old-fashioned field research to determine where problem areas exist on the reservation. From there, the Tulalip Natural Resources Department works to address those problems, aiding both the environment and people who rely on that environment.

One prime focus for the program is finding and preventing septic tank failure. Impurities from failed septic systems cause potential for disease-causing pathogens to grow in the water.

Using new technology which measures the nutrient content in bodies of water, Tulalip staff can detect chemicals and other impurities in bodies of water. Besides septic failure, this can also reveal early indicators of improper fertilizer applications, breakdown of animal waste and other events that cause problems for water, people and fish.

The Tulalip water quality lab was certified in 1995 by the state of Washington's Department of Ecology. Since then, they've been monitoring surface water on and off the reservation.

The on-reservation water quality program for Tulalip looks primarily at surface water. This includes three streams – Battle Creek, Tulalip Creek, and Quil Ceda Creek – as well as Tulalip Bay and other nearshore marine waters.

"We work to identify water quality problems so that our natural resources department can solve them," said Eastman. "Clean water benefits everyone in the community."

Terry Sebastian, fords the Clearwater River in search of spawning chinook salmon.
Photo: E. O'Connell

Puyallup Tribe:

Puyallup Basin Fisheries
Enhancement And Monitoring

The hills in eastern Pierce County are dressed in clouds as Terry Sebastian, a Puyallup Tribal Fisheries Department spawning surveyor, steps out and gets ready for a day's work. Sebastian is looking for spawning salmon on the Clearwater River, a major tributary of the White River.

"These salmon have been through a lot to get up here," said Sebastian, as he moves quickly over a series of fist-sized cobble, the size of gravel chinook salmon prefer. Before salmon spawn in the Clearwater River, they must negotiate a series of manmade hazards, including the heavily urbanized lower Puyallup River and a diversion dam near the town of Buckley. All of the salmon Sebastian will see today have been trapped at that dam, trucked above it and released to spawn.

White River chinook are one of the Puget Sound stocks listed as "threatened" under the federal Endangered Species Act. In addition to chinook, coho salmon and steelhead trout also live in the Clearwater River. "Seeing fish in the river is the best way to find how well they're doing up here," said Sebastian.

Spawning surveyors like Sebastian go a long way to collecting the data that will eventually be used to set goals for recovering chinook in the Puyallup system. In addition to counting salmon and salmon nests, spawning surveyors also collect scale samples. "With the data we collect from scale samples, we can determine how old the salmon is," said Sebastian. "That will help us determine the survival rates of various age classes, as well as the overall productivity of the system."

In addition to spawning surveys, the Puyallup Tribe also operates two smolt traps and conducts a number of other studies to estimate salmon populations on the Puyallup River system. All are funded through Pacific Coastal Salmon Recovery Program funds.

"The better the data we can collect in these spawning surveys, the better we can estimate salmon populations for years to come," said Blake Smith, Enhancement Manager for the Puyallup Tribe. "The more we know, the better we can help restore these weak salmon runs."

The tribe most recently began operating a smolt trap on the White River. Smolt traps are safe and effective devices for counting young salmon migrating out to sea. "With a smolt trap on the White River, in addition to the one on the Puyallup that we've been running for two years, we can get a near total estimation of how many young salmon leave this system," said Smith. "We're trying to get a handle on everything so we can bring salmon back."

The tribe is also enhancing salmon runs in the Puyallup River by seeding its upper watershed. The upper watershed had been blocked for almost a century up until a few years ago when a fish ladder was built around a dam. "We're jumpstarting the runs up there by trucking adult chinook and coho above the dam and by releasing juvenile salmon in acclimation ponds," said Smith. "We're hoping by re-seeding the upper watershed and providing access for salmon, we can start seeing healthy returns."

Quinault Indian Nation:

Sockeye Supplementation And Enhancement

While the sockeye (or blueback) salmon has been revered in Quinault Indian Nation (QIN) culture for centuries, it is only recently that technology has begun allowing QIN fisheries personnel to learn more about the habits of the fish.

By using water temperature variations to mark the otoliths (ear bones) of young hatchery sockeye, QIN fisheries biologist hope to determine contribution and survival rates to the fishery from its wild sockeye supplementation program. "It will help us know a little more about how our program is actually doing," said Rob Rhoads, QIN fisheries technical support manager.

Barbara McClellan, a biologist with the Quinault Indian Nation, examines the earbones of a sockeye salmon. Photo: D. Preston

Sockeye return to their home lake or stream anywhere from two to five years after they begin their ocean migration. The staggered return makes it difficult for biologists and harvest managers to get a good idea about rates of return in specific years.

The otolith project will help answer some of the questions about the success of the hatchery supplementation of wild sockeye. QIN fisheries personnel marked three groups of hatchery fish; each group was given a unique tree ring-like mark on their ear bones. Nearly 1 million fish were released. Most (800,000) were released at the fry stage into Lake Quinault. A second group of fry was released in tributaries to Lake Quinault. Also released into the lake was a third group of zero-age smolts that had been raised to release size in half the normal time by being reared in warmer water and fed more frequently. This group was expected to return and spawn one year earlier than the fry releases.

When fisheries personnel retrieve the specially marked ear bones from returning adults in the coming years – beginning as soon as next spring – they will be able to determine to which of the three groups each fish belonged. "This will help us find out what the distribution of supplemental fish is on the spawning grounds, their rate of survival, and how old the fish are," said Rhoads.

Because the tribe is capable of performing all of the laboratory analysis associated with the project, the speed at which data can be analyzed will be increased. The few otolith labs in the state capable of performing the analysis are backlogged with work. "This is only the beginning. Other applications for this technology could be considered in the future," said Rhoads.

Pacific Coastal Salmon Recovery Program funding also provided for the purchase of water purification equipment that will help eliminate pathogens from the water in which sockeye eggs and young fish are reared at Lake Quinault.

Greg Sullivan, right, and William Jones III, Port Gamble S'Klallam tribal members and natural resources technicians, gather data from the mouth of a creek on Hood Canal.
Photo: D. Friedel

Port Gamble S'Klallam Tribe:

Juvenile Salmonid Utilization Of Tidal Creeks

Understanding what habitat fish use is important when trying to protect natural salmon runs. For that reason, the Port Gamble S'Klallam Tribe has extended its fisheries research to include portions of northern Hood Canal where there are no documented salmon spawning grounds.

"Basically, we are looking to see if juvenile salmon are in certain areas they are not expected to be, and if so, when those fish are in those areas," said Ted Labbe, Port Gamble S'Klallam habitat biologist. "What we have found is that certain watersheds, which do not have documented native populations of salmon, have special significance to at-risk populations."

Each month, the size and weight of juvenile salmon are sampled from tidal creeks, lagoons and channels in northern Hood Canal. The different species of fish located in each area – chinook, chum, coho, pink and cutthroat trout – also are documented throughout the year. Of the salmon sampled, Hood Canal summer chum and Puget Sound chinook are listed as threatened under the federal Endangered Species Act.

At least two different species of fish were found in each of the 12 randomly selected sites. Of the federally listed species, chum was by far the most abundant salmon. Chum were documented at all of the sites while chinook salmon were found at five of the sample areas.

"We are finding juvenile fish in certain areas where they are not expected to be – in areas outside of where they were born," Labbe said. "What that tells us is just how important that habitat can be to salmon, especially migrating chinook."

Of the five sites juvenile chinook were found in, four were on the east shore of Hood Canal. That's important, because it was believed chinook would most often be found on the west side of the canal.

"That's peculiar for Hood Canal," Labbe said. "Juvenile chinook had not been recorded at these sites. So, it is important to find out what habitat along the canal is critical to the salmon's life history and make sure the habitat stays protected, especially during certain parts of the year when we know salmon are in the area. The more we know when and where salmon are located, the better we can adjust our activities to avoid harming these fish."

The study is one of many projects the tribe is working on that is funded by Pacific Coastal Salmon Recovery money. Other projects include a salmon spawning escapement survey, an estuaries study, a survey of the food available to recovering salmon populations, as well as salmon habitat restoration projects on a portion of Middle Creek and at the Point No Point marsh.

"These surveys and restoration projects are important," Labbe said. "Each project contributes to our goal of restoring strong salmon returns to the Puget Sound and across the Pacific Northwest."

Future Funding Needs

The need for tribal resources is critically important as the region moves forward to develop a comprehensive salmon recovery plan through the Shared Strategy, a process that cannot succeed without meaningful tribal participation at all levels. In addition, tribes need resources to ensure recovery efforts in their watersheds are robust. Tribes are essential partners in salmon recovery, with needs that generally fall into three categories: infrastructure for policy and planning; regional integration and technical assistance; and restoration projects to protect and rebuild salmon habitat. Backed by solid systems of accountability and a strong strategic coordinating function provided by their NWIFC, the tribes ensure that salmon recovery resources directly benefit the salmon.

Pacific Coastal Salmon Recovery funding provided to western Washington tribes in FY 2000, 2001 and 2002 has enabled the tribes to begin realizing their appropriate role as central participants in wild salmon recovery efforts. Full participation in this long term effort will be dependent on adequate future funding.

For FY 2003, the treaty tribes in western Washington are seeking at least $9 million in Pacific Coastal Salmon Recovery Project funding to help further bridge huge unmet needs for building internal capacity. This funding will enable tribes to continue critical work on watershed assessments that include assessing habitat conditions, conducting in-stream flow studies, and analyzing water quality and quantity factors related to salmon productivity. Other types of salmon restoration projects and activities that could be conducted include projects to address factors limiting salmon production in watersheds, habitat and stock monitoring, and adaptive management monitoring, research, assessment and application.

Tribal Hatchery Reform

Introduction

As wild salmon stocks have declined, tribal, state and federal governments have become dependent on hatcheries to provide a meaningful level of harvest for Indian and non-Indian fishermen. Treaty Indian tribes and the State of Washington today operate the largest salmon hatchery system in the world.

The listing of several Puget Sound and coastal salmon stocks under the federal Endangered Species Act (ESA) puts a new spotlight on all activities that may harm wild salmon, including hatchery programs. In response, Congress adopted and funded in Fiscal Year 2000 the recommendations of a science advisory team, launching the Puget Sound and Coastal Washington Hatchery Reform Project. The Hatchery Reform Project is a systematic, science-driven examination of how hatcheries can help recover and conserve naturally spawning salmon populations and support sustainable fisheries.

Policy Development

Hatcheries play an important role in meeting tribal treaty harvest obligations. Federal court rulings have affirmed tribal treaty harvest rights include both hatchery and wild salmon, and have established the tribes as co-managers of the salmon resource. As co-managers, the tribes and State of Washington are seeking to go beyond merely complying with ESA directives that hatcheries be operated to minimize risks to endangered fish.

With the support of Congress and the State of Washington, considerable progress has been made in the short time that the Hatchery Reform Project has been under way. The project has two purposes:

- Helping to recover and conserve naturally spawning populations; and
- Supporting sustainable fisheries.

There is a clear sense among decision makers that with an understanding of the history of hatcheries, a vision for how hatcheries can be managed differently in the future, and a comprehensive strategic plan that is based on solid science, there is good cause for optimism about the benefits of hatchery reform.

Federal appropriations have provided funding to:

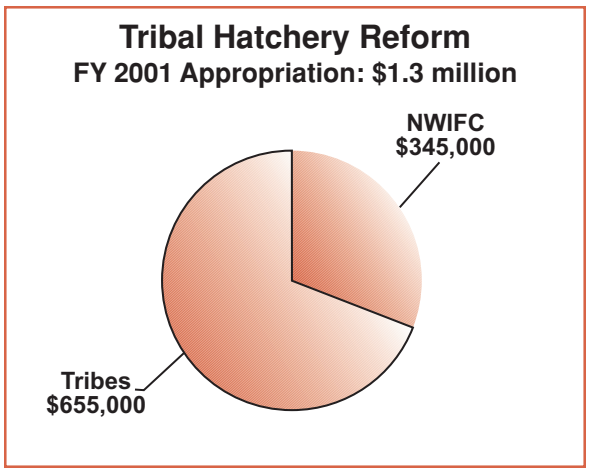
- Establish an independent scientific panel – the Hatchery Scientific Review Group (HSRG) – to ensure a scientific foundation for hatchery reform;

- Provide a competitive grant program for needed research on hatchery impacts;
- Support state and tribal efforts to implement new hatchery reforms; and
- Provide for the facilitation of a reform strategy by an independent third party, the Long Live the Kings salmon conservation organization, to coordinate implementation of the reform effort.

Funding Distribution

Member tribes and their Northwest Indian Fisheries Commission (NWIFC) received a total of $1.009 million to implement hatchery reform in FY 2001. The tribes used all but $345,000 of that amount on projects designed to implement Hatchery Genetic Management Plans developed in FY 2000 and to address changes recommended by the HSRG in their regional review of hatchery programs.

As part of this implementation, tribes developed and implemented a scientifically based, competitive project application and ranking process for awarding contracts to implement hatchery reform activities. In FY 2002, 19 projects totaling $659,730 were awarded.



FY 2002 Hatchery Reform Appropriation

	WDFW	NMFS	**NWIFC**	USFWS	HSRG	LLTK	IAC	**Total**
Independent Scientific Review, Oversight and Planning					$302,000			**$302,000**
Agency Scientists and Assistants to Support Scientific Decision Process	$400,000	$100,000	**$345,000**	$100,000				**$960,000**
Hatchery Practices, Structural Improvements	$1,159,000		**$664,000**	$75,000				**$1,883,000**
Scientific Research					$390,000			**$390,000**
Facilitation and Communication						$340,000		**$340,000**
Budget Administration				$25,000			$100,000	**$125,000**
Total	$1,559,000	$100,000	**$1,009,000**	$200,000	$692,000	$340,000	$100,000	**$4,000,000**

WDFW = Washington Dept. of Fish and Wildlife; NMFS = National Marine Fisheries Service;
NWIFC = Northwest Indian Fisheries Commission; USFWS = U.S. Fish and Wildlife Service;
HSRG = Hatchery Scientific Review Group; LLTK = Long Live the Kings;
IAC = Interagency Committee For Outdoor Recreation

The remaining $345,000 was used to support the tribal hatchery science team within the Enhancement Services Division at the NWIFC, as well as the tribal representative to the Hatchery Scientific Review Group housed at the Nisqually Tribe. The NWIFC hatchery science team, under the supervision of Dr. Kenneth Currens, senior geneticist, consists of a second geneticist, a biometrician and a salmon ecologist.

The geneticists provide technical support for commission and tribal staffs on issues involving genetics and salmon recovery. These issues include: appropriate uses of hatcheries in salmon recovery programs; planning, implementation and monitoring of hatchery research; risk assessment; and mixed stock fishery analysis using genetic data.

The salmon ecologist provides technical support for tribal programs on issues involving ecology and artificial production. These issues include the role of fish behavior, interspecies interactions and habitat in hatchery programs; planning, implementation and monitoring of research for hatchery activities; risk assessment; and improving fish culture.

The biometrician provides technical support for commission and tribal enhancement staffs on experimental design and monitoring, statistical analysis and database maintenance.

As of this writing, Congress had not yet appropriated funding for FY 2003. The tribes are seeking at least status quo funding of $1 million for this fiscal year.

Accomplishments

Funding for hatchery reform in western Washington has led to a series of important accomplishments:

- The state and tribal co-managers have created the Hatchery Reform Coordinating Committee, a top-level policy group committed to working with independent scientists and a private non-profit organization to identify the goals of hatchery reform and encourage its implementation.

- A diverse and accomplished independent scientific panel has been established and has developed the scientific framework to guide hatchery reform programs. The Hatchery Scientific Review Group (HSRG) has completed reviews of hatchery programs in six of 10 western Washington regions. The remaining four are scheduled for completion in 2003.

- Initial research has been funded – and is being carried out – to address the knowledge gaps about how hatcheries affect wild stocks. The HSRG has funded three rounds of research – totaling over $1.5 million – on hatchery impacts and the use of hatcheries as tools of conservation. The HSRG sponsors annual research reviews in January to provide an opportunity for funded researchers to present the results of their work, allowing the new scientific information to aid the hatchery reform effort.

- Congressional funding to support tribal and state efforts to implement new hatchery reforms has been used to establish agency science teams. These teams have undertaken a variety of activities that support the hatchery reform process, including conducting risk analysis on hatchery programs to meet ESA requirements; conducting research on hatchery effects and practices that complement the HSRG research grant program; implementing early reforms; gathering data for HSRG regional briefing documents; interpreting technical literature for hatchery managers; and otherwise providing technical support to the HSRG the Hatchery Reform Coordinating Committee and regional staff participating in the hatchery program review process

- The NWIFC staff geneticist assigned to hatchery reform has worked with the tribes on genetic issues associated with the development of hatchery management plans and prepared for reviews with the Hatchery Scientific Review Group; helped collect and analyze DNA data on threatened Lake Ozette sockeye salmon for the Makah tribal monitoring program; and developed research to evaluate genetic change in small populations when the populations are being maintained by conservation hatchery programs.

- The NWIFC staff biometrician assigned to hatchery reform worked with the tribes to develop statistical techniques for assessing the contribution of hatchery and wild fish to natural spawning aggregations; analyzed data on returns of hatchery fish, which is useful for evaluating the success of hatchery programs; and provided statistical consulting on tribal research and monitoring projects. The biometrician has assisted the HSRG in developing monitoring and evaluation criteria that can be used to determine the success of a hatchery program in meeting its goals and objectives. These criteria will also consider what data is needed for future research on hatcheries. The biometrician has begun work with participants in regions already reviewed by the HSRG to aid them in tailoring monitoring and evaluation criteria to the features and circumstances of their region.

- The NWIFC staff salmon ecologist helped the NWIFC's member tribes implement sampling techniques for studying predation by hatchery fish; initiated a literature database on ecological interactions; and is developing qualitative modeling techniques to allow managers to describe potential ecological interactions in their watersheds and assess priorities for research and monitoring. The ecologist also worked with individual tribes to assist in implementation of ecological studies funded through the hatchery reform effort.

- New hatchery management software and a database have been developed and distributed to greatly improve the amount of information available to hatchery managers and policy makers. The software, called HatPro, improves monitoring, management and planning capabilities for hatchery managers, as well as allowing on-site electronic transfer of key hatchery data directly to state, tribal and federal agencies. Three training workshops have been held for tribal hatchery managers.

Tribes developed and utilized a scientifically based, competitive project application and ranking process for awarding contracts to implement hatchery reform activities. In FY 2002, 19 projects totaling $659,730 were awarded. Examples of the types of projects funded include:

Jason Griffith, Stillaguamish tribal biologist, checks a smolt trap in the Stillaguamish River for the presence of captured juvenile salmon.
Photo: J. Shaw

Stillaguamish Tribe:

Smolt Trap Operation, New Hatchery Raceways

Boosted by hatchery reform project funding, the Stillaguamish Tribe is working hard to restore federally-protected chinook salmon in its watershed – as well as other salmon stocks. Two projects undertaken by the tribe will represent a significant step forward for several species of fish.

One program, an innovative and comprehensive research project, is gathering key information on juvenile chinook. By operating a smolt trap, a safe and effective fish-capture device, tribal officials are learning more about juvenile salmon life and behavior – which will help develop conservation plans to protect fish in the Stillaguamish Basin. Another, an improvement of the tribe's hatchery, will help the Stillaguamish successfully augment wild fish runs.

For the past two years, the smolt trap has helped biologists learn more about how chinook behave – and how best to tailor recovery plans.

"We can't accurately say what's happening with juvenile chinook in the region without a smolt trap," said Pat Stevenson, environmental coordinator for the Stillaguamish Tribe. "That represents a big data gap in the recovery plan for chinook."

Hence, the tribe has launched a study of juvenile salmon production and behavior in the area. The study began in 2001 and was originally planned to last seven years. However, the tribe is committed to continuing its research as long as the efforts are valuable toward salmon recovery.

"We're in it for the long haul," says Jason Griffith, a biologist with the tribe. Stillaguamish crews will operate the trap from early March until August each year. The tribal hatchery reform project has contributed funding during each of its years of operation.

The equipment the tribal team uses – also called a ‘‘screw trap’’ – allows technicians to monitor fish without injuring them. Fish are drawn in through the trap’s wide ‘‘cone,’’ which is designed to safely capture the young salmon, and are funneled into an holding area. There, the juvenile salmon and trout will be counted, measured and set free.

“Chinook are a primary concern for us: the tribe has put a lot of time, effort and money into chinook recovery work,” said Griffith. “But this trap will also help us gain valuable information on other species of fish as well, such as coho salmon, bull trout, sea-run cutthroat, steelhead, sockeye, chum and pink salmon.”

Particularly, the trap will help complete the picture of the chinook life cycle. The Stillaguamish Tribe has gathered significant amounts of information on the adult chinook salmon, but not as much on the juvenile fish. By operating the trap, tribal biologists will learn more about juvenile salmon production levels; rates of survival for the young fish; migration timing; size at migration; and a myriad of other helpful facts.

“With that data, we’ll be able to pinpoint the problems and fine-tune the way we address those problems,” said Griffith. “The information we’re going to get from this trap we can’t get with any other sampling methods, and what we learn here we can apply to all of our other efforts to recover the salmon.”

Additionally, the Stillaguamish tribal hatchery will use hatchery reform project funding to improve its chinook augmentation program. The program, aimed at saving wild chinook salmon, will replace outdated rearing troughs with new raceways next year. Building bigger and better places for hatchery fish during critical formative periods will help improve their all-around health.

“The new raceways will help us reduce early rearing densities, which will help improve survival rates for listed chinook salmon,” said hatchery manager Kip Killebrew.

Together, the two projects represent the tribe’s commitment to using federal funds wisely in order to recover a unique symbol of the Pacific Northwest.

“Culturally, spiritually and economically, the chinook salmon has always been of critical importance to the tribe,” Stevenson said. “Projects like this help us ensure that the next generation is able to share in that.”

Joe Hinton, Makah tribal hatchery manager, prepares to release a tagged sockeye salmon into Umbrella Creek. Photo: D. Preston

Makah Tribe:
Genetic Characterization Of Lake Ozette Sockeye

What makes one salmon distinct from another? Are those unique genetic characteristics important? These are the fundamental questions involved in many salmon recovery projects that can be difficult to obtain due to funding restraints and the volume of research needed.

But the Makah Tribe has been able to move much closer to answering these questions about Lake Ozette sockeye, a salmon listed as threatened under the Endangered Species Act. Hatchery reform project funding has helped the tribe gather important information necessary to aid in the increase of sockeye numbers without losing the genetic characteristics that set them apart.

Combining state-of-the art laboratory genetics and old fashioned field biology, the Makah Tribe is leading the way in using hatcheries to rebuild threatened sockeye salmon populations in Lake Ozette.

Lake Ozette is a roughly eight-mile long body of water located in Olympic National Park just south of the Makah Tribe's reservation on the northern tip of the Olympic Peninsula. Historically, tribal and non-tribal fishermen harvested many sockeye there, but a variety of factors led to the precipitous decline of populations.

"Historically, sockeye are thought to have spawned in both the lake and tributaries of the lake," said Mike Crewson, Salmon Division manager for the Makah Tribe. "However, the tributary spawners were wiped out and there are only two beach areas on the lake left where the wild fish spawn."

In recent years, the tribe re-introduced hatchery-reared sockeye to the lake tributaries of Umbrella Creek and Big River. As a result, the numbers of sockeye returning to the Lake Ozette system in 2000 and 2001 are the highest on record since the 1920s. More than 50 percent of the returning fish were the hatchery fish returning to the tributaries, said Crewson.

"By keeping the hatchery-rearing time short, we minimize the effects of rearing the native, wild stock in a hatchery environment. The returning adult sockeye moved all over those tributaries on their own, appeared to use appropriate areas for spawning, and we had no strays stay in the lake. It was the perfect scenario," said Crewson. The returning lake and tributary sockeye are analyzed genetically to make sure they are not interbreeding with any other fish, such as kokanee.

The other genetic question the tribe is working to answer is whether there are genetic differences between wild lake-spawning sockeye that choose one of two beaches to lay their eggs. The tribe and the National Marine Fisheries Service's technical recovery team, responsible for developing a recovery plan for the threatened sockeye salmon under the Endangered Species Act, are using the information to determine whether different populations of wild Lake Ozette sockeye use the two beach spawning areas. Knowing whether one, two, or more distinct populations exist in the lake will help them identify and choose recovery strategies. If genetic differences exist between the beach-spawning groups, those differences could change how the tribe conducts future re-introductions and how re-colonization of other spawning beaches might occur as lake spawning habitat improves.

By identifying goals for its hatchery program, the potential risks and benefits associated with those goals, and by developing the scientific tools to monitor risks and make changes, the Makah Tribe is aiming at a brighter future for Lake Ozette sockeye salmon.

Squaxin Island Tribe:

Acoustic Monitoring Of Tagged Juvenile Coho In South Puget Sound

Once salmon migrate out to sea, scientists don't have much information on where they go and what they do. But now, researchers are getting a rare glimpse into the saltwater life of salmon.

Small acoustic transmitters inserted in juvenile coho are helping the Squaxin Island Tribe learn more about salmon migration patterns. Photo: B. Stewart

Using innovative technology, the Squaxin Island Tribe is tracking juvenile coho throughout southern Puget Sound as they make their way out to the ocean. "We know that in general coho salmon spend some period of time in Puget Sound before they head out into the ocean and later return as three year olds," said Jeff Dickison, Policy Analyst with the Squaxin Island Tribe. "We've never been able to track them with this level of detail."

Using an array of acoustic receivers located south of the Tacoma Narrows Bridge, the tribe tracked a group of juvenile salmon equipped with acoustic transmitters as they made their way out to the ocean. "This is one of the first times anyone will get a near real-time look at individual salmon in the saltwater," said Dickison. The pilot group of 48 will be followed up by nearly 200 coho this spring if hatchery reform project funding is renewed. "Last year we were making sure the technology was going to work for us. The real science starts in 2003."

A weak hatchery coho run in 1999 convinced the Squaxin Island Tribe they had to find out what happened to juvenile salmon once they were released from the tribe's netpen facility in Peale Passage. Although almost all other hatchery coho stocks that year in Puget Sound were depressed, south sound hatchery coho returns were worse and no one knew why. "It wasn't freshwater mortalities; these salmon are kept in saltwater netpens until they're ready to be released," said Dickison. "It was something that happened out in the sound or in the ocean."

When a tagged smolt passes near a receiver, its individual frequency is picked up and can be tracked for several hundred yards. “If these salmon stay south of the Tacoma Narrows for any length of time, we are going to be able to gather a lot of detailed information,” said Dickison. “We’ll also know when they leave south sound heading out to sea.”

Compared to earlier techniques of tracking salmon, such as coded wire tags inserted in the snouts of juvenile salmon, acoustic tagging is timelier and provides much more information. “With coded wire tags, you basically have two pieces of information: where the salmon was released and where it died, whether in a stream after spawning or after harvest,” said Dickison. “But with acoustic tags, you can track many other aspects of salmon life in saltwater; for example, where a salmon might be feeding or how fast it travels through a particular area.”

Even though the technology is fairly new – some experiments in British Columbia have also been performed in the past few years – the south sound is a perfect place for it to get a test run, said Dickison. “There is only one place for these fish to leave the south sound, and that is through the Tacoma Narrows,” said Dickison. “It’s fairly easy for us to track a good amount of salmon.”

The acoustic tracking program, backed by hatchery reform funds, is expected to lead to more efficient hatchery operations, said Dickison. “Having more information on how these juvenile hatchery coho interact with the natural environment can suggest better ways to run the netpen operation.”

Future Funding Needs

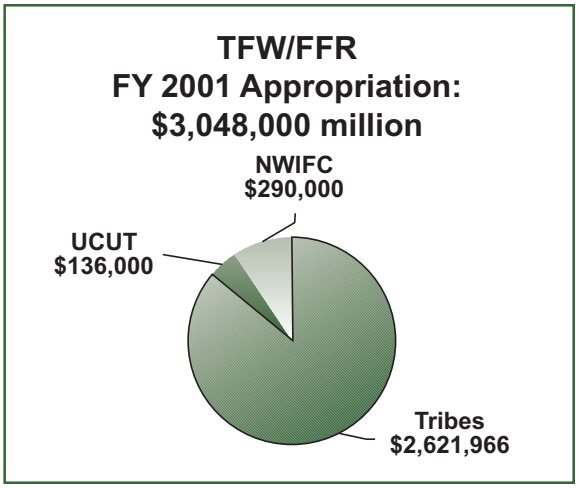
Unlike the State of Washington, which can provide legislative appropriations to the Washington Department of Fish and Wildlife to implement hatchery reform, federal appropriations are the only avenue available to the tribes for hatchery management and reform funding. Hatchery Reform is an ongoing process, and consistent federal funding is absolutely necessary to enable tribes to conduct hatchery-specific studies that provide information leading to progressive modifications of hatchery programs.

Tribal fishery management and hatchery programs are funded almost exclusively by federal appropriations. Tribes are continually refocusing their programs to address the most pressing salmon related issues. Significant portions of tribal programs and resources have been refocused to address salmon recovery issues such as ESA and hatchery reform.

In FY 2003, the member tribes of the NWIFC will continue to provide much of the technical expertise regarding changes needed in hatchery programs. They will work to complete Comprehensive Coho and Comprehensive Puget Sound Chinook management plans, which include hatchery management components. As requested, they will also continue to contribute technical expertise in genetics and hatchery management and to utilize extremely limited hatchery maintenance funds provided through the Bureau of Indian Affairs.

Timber/Fish/Wildlife Forests And Fish Report

Introduction



This report outlines activities and accomplishments during FY 2002 and identifies additional funding needed for ongoing tribal participation in the Timber/Fish/Wildlife (TFW) Forests and Fish Report (FFR) process. Participating tribes continue to make considerable progress in organizing and coordinating their involvement in cooperative statewide FFR activities and have demonstrated strong leadership in establishing the FFR structure.

Congress appropriated $3.048 million in FY 2000, FY 2001 and FY 2002 to fund tribal participation in implementing the FFR, in cooperation with federal and state governments, the timber industry and other interest groups. As of this writing, Congress had not yet appropriated funding for FY 2003. Tribes have requested $4.94 million for FY 2003, but as of this writing had not received word on the final amount to be awarded.

From FY 2000 through FY 2002, each of 26 participating federally recognized tribes received $100,846 to support their goals and participation. A total of $136,000 was designated to accomplish coordination of tribal involvement in eastern Washington through the Upper Columbia United Tribes (UCUT). To complete the tribal program, $290,000 was assigned for central policy and technical coordination of tribal FFR implementation statewide through the Northwest Indian Fisheries Commission (NWIFC).

To continue and expand their participation with FFR implementation, tribes need $4.94 million in Fiscal Year 2004, an increase of $1.9 million above current appropriation levels. This appropriations request is intended to maintain existing programmatic infrastructure and activities and to begin building the effectiveness monitoring and data management structures necessary to implement adaptive management and maintain program accountability.

Background

More than a decade ago, treaty tribes and other stakeholders in Washingtons forest resources agreed to find common ground for responsible natural resource management instead of waging costly and lengthy battles in the courts to resolve their differences. The result was the unprecedented Timber/Fish/Wildlife (TFW) Agreement. Since then, the tribes and tribal organizations in Washington State have participated in the TFW Agreement, along with the timber industry, state government, and the environmental community.

A variety of factors – including the listings of several western Washington salmon stocks under the Endangered Species Act (ESA), ongoing statewide water quality degradation, and concern over the continued economic viability of the timber industry – brought TFW participants together in November 1996 to develop joint solutions to these problems. Federal and local governments participated original TFW members in what is commonly referred to as the TFW "Forestry Module Negotiations," a significant component of Washington's statewide salmon recovery effort. The result was a plan to update forest practices rules called the Forests and Fish Report (FFR), which was completed in April of 1999, and later adopted by the Washington State Legislature.

The FFR is based on four goals:

- To provide compliance with the ESA for aquatic and riparian-dependent species on non-federal forest lands;
- To restore and maintain riparian habitat on non-federal forest lands to support a harvestable supply of fish;
- To meet the requirements of the federal Clean Water Act for water quality on non-federal forest lands; and
- To maintain the economic viability of the timber industry in the State of Washington.

The six caucuses participating in FFR implementation are:

- The Federal Government Caucus represented by the National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA), and U.S. Fish and Wildlife Service (USFWS);
- The Tribal Caucus represented by individual tribes and Indian nations in the State of Washington;
- The State Government Caucus represented by the Department of Natural Resources (DNR), Department of Ecology (DOE), Washington Department of Fish and Wildlife (WDFW), and Governor's office;
- The Local Government Caucus represented by the Washington Association of Counties and individual counties;
- The Environmental Caucus represented by the Washington Environmental Council, the National Audubon Society, American Rivers, and Sustainable Fisheries Foundation; and
- The Timber Landowner Caucus represented by the Washington Forest Protection Association, the Washington Farm Forestry Association, and individual timber companies and small landowners.

(Note: As of Sept. 1, 1998, the Washington Environmental Council and the National Audubon Society withdrew from Forestry Module negotiations, but not necessarily from the TFW process.)

Tribal Participation In TFW/FFR Implementation

While there is not consensus among tribes on the entire Forests and Fish Report, there is consensus that the Adaptive Management Program component is critical to its success. Adaptive management is the process of evaluation and monitoring to constantly gauge the effectiveness of management practices and determine if changes are needed. This ranges from the use of Interdisciplinary (ID) Teams to properly implement the intent of the forest practices rules in complex site-specific situations, to conducting long-term effectiveness monitoring to establish whether the rules are meeting resource objectives.

The tribes were the lead authors on adaptive management permanent rule language that was unanimously supported by the other TFW caucuses. Tribes also agree that FFR can succeed only if the Washington Department of Natural Resources (DNR) vigorously enforces the forest practices rules and performs scientifically rigorous compliance monitoring. It is imperative that additional funding is appropriated to support these programs.

Tribal participation is a critical component of TFW and FFR implementation. The federal stakeholders continue to rely heavily on tribal technical information to gauge its success. The tribes offer a centuries-old tradition of resource stewardship, practice state-of-the-art technological innovation, and are strategically located to respond to the critical management needs in their local watersheds. There are three distinct advantages to this process and structure. First, it provides a broad base of local participation for all parties, including each tribal government involved in the process. Second, it provides tribal and local governments with flexibility to address regional and political differences. Third, this process and structure is efficiently based without a top-heavy bureaucratic response that is costly and slow to react to environmental problems.

For the tribes, the primary factor in the success of TFW has always been the cooperative decision-making process. This consensus-based approach has empowered the tribes and acknowledged their management authority regarding forest practices management. The tribes have demonstrated their ability to establish and maintain a cooperative process for the management of forest resources while incorporating tribal concerns. As they have throughout the TFW process, participating tribes are utilizing the Northwest Indian Fisheries Commission for necessary technical expertise and to coordinate their work effectively and collaboratively.

Tribal involvement with the implementation of the FFR has evolved with the availability of federal funds to support those efforts. A tribal base program for evaluation of forest management impacts upon treaty-protected resources is furthering the development of tribal capacity in the areas of silviculture, geology, and hydrology to complement their fisheries expertise. Additionally, tribal programs require coordination, information management and access to technical expertise to support tribal efforts as co-managers.

The tribes continue to develop and implement a comprehensive work plan evaluating the forest management guidelines set forth in the FFR for adequacy in meeting tribal salmon recovery goals. They have developed a comprehensive communication network and continue to implement a coordinated tribal response to improve both the content and application of the FFR in watersheds throughout the State of Washington.

Key Work Plan Elements

The tribal workplan has been developed to promote active participation in the TFW/FFR stakeholder process, to provide scientific and technical support for tribal adaptive management project implementation, and to assist the tribes in addressing their specific issues and concerns.

Key work plan elements include:

- Tribal TFW/Forests and Fish Program development and coordination: NWIFC provides the lead program development and coordination to tribes in the State of Washington. A full-time coordinator, silviculturist, and geomorphologist/ hydrologist have been hired as the program's core team leaders to provide the communication and scientific expertise to assist the tribes implement the FFR. An intranet web site is used to facilitate dissemination of information and support continued development of the work plan. Program work plan priorities and strategies are continuing to evolve and be developed that address key near- and long-term issues.

- Forest Practices Board (FPB) support: The tribes are coordinating and developing a new policy and technical support network for the tribal representative on the Forest Practices Board. Participation at this level in forest practices was especially important during the permanent rule drafting process and continues to provide guidance for adaptive management implementation.

- TFW Policy Committee Participation: The TFW Policy Committee is made up primarily of representatives of the various caucuses that negotiated FFR. The tribes continue to build a strong presence on this committee to comment on and help direct forest practices policy and actions.

- Adaptive Management Program Development and Participation: The TFW/FFR Adaptive Management Program is the heart of the tribal scientific/technical effort and is considered essential for successful implementation of FFR. The tribes are taking leadership roles in designing the scope and pathways of program elements. For example, the tribes are providing key assistance in developing an effective programmatic protocols and standards manual for the Cooperative Monitoring, Evaluation, and Research (CMER) Committee and its subcommittees. Participation in CMER also involves organizing, prioritizing, and managing adaptive management scientific proposals.

- Monitoring Design Team (MDT) Participation: The tribes have three participants on the ten-member MDT. The MDT is a "blue-ribbon" panel of scientists that have been charged to help shape the overall CMER monitoring program by developing a comprehensive and integrated monitoring design. This design is to serve as a framework for conducting ongoing and future monitoring activities, and to ensure that those activities contribute appropriate and timely information. The tribal participants are taking lead roles, including coordination and writing the team report. The March 2002 draft of the MDT report is currently being used to help CMER design their 2003 workplan and set the framework for comprehensive multi-year workplan objectives.

- Implementation of New Permanent Forest Practices Rules: On May 17, 2001, the Forest Practices Board passed permanent forest practices rules adopting most of the provisions of the FFR. The rules went into effect on July 1, 2001. The tribal FFR program is working to support accomplishment of some remaining pieces required by the rules. This includes many unfinished Forest Practices Board manuals, a CMER protocols and standards manual and work plan, and road maintenance and abandonment evaluations.

CMER has initiated and funded more than 30 scientific projects to date. Some of the larger projects include a study to validate the desired future condition basal area performance targets for western Washington riparian stands, continued development and testing of a GIS-based model that predicts the uppermost extent of fish habitat on streams, a study to validate the basin-area relationship rules for determining the upper extent of perennial non-fish bearing water on streams, multiple studies to validate statewide road and mass wasting rules, and a project to compile and evaluate existing literature and data related to riparian disturbance regimes in eastern Washington.

Case Studies

Skokomish Tribe:
Hardwood Conversion

Focusing on preserving future salmon runs, the Skokomish Tribe worked with a timber company and other agencies to help keep a timber harvest from damaging important fish habitat along the Dewatto River.

Jeff Heinis, a habitat biologist with the Skokomish Tribe, examines a stand of alder scheduled to be harvested. Photo: D. Friedel

Earlier this year, the tribe reviewed Olympic Resource Management's application to log a portion of wetlands within the tribe's treaty area. They found that the area did not have the necessary amount of conifer trees needed to allow for a timber harvest. So, the tribe and the timber company worked out an alternate plan that allowed trees along an unnamed tributary of the Dewatto River to be logged as a "hardwood conversion," which involved replacing the harvested alder trees with conifers.

The agreement includes leaving in place the area's existing conifer trees, which provide shade and better habitat for salmon in the river. After falling in the river, conifers decompose slower than alder tress, creating good habitat for juvenile and adult salmon.

"Basically the agreement was a winning situation for all of those involved," said Marty Ereth, habitat biologist for the tribe. "All the groups that took part in this process worked together and reached an agreement on how to go about managing this land in an effective way."

Because this was the first hardwood conversion for the tribe since the Timber/Fish/Wildlife Forests and Fish Report was adopted, the tribe turned to the Northwest Indian Fisheries Commission's silviculturist Steve McConnell for some help on the project. The commission provides natural resource management services to treaty Indian tribes in western Washington.

"With his background and knowledge of these types of projects, Steve helped provide us context on what was being proposed," Ereth said. "He helped us weigh the pros and cons in making our decision, which reassured us that the project was going to be done properly."

The tribe and McConnell saw benefits to the project. Past logging operations in the area allowed for the establishment of alder trees, which are usually the first trees to appear after a timber harvest. By carefully thinning the alder population and increasing the number of conifers, the area could once again resemble its previous conditions.

Preserving the habitat in the Hood Canal watershed is important to the tribe, which values fish culturally and economically. The Dewatto River supports chinook, coho and chum salmon, along with steelhead and cutthroat trout populations. Of those fish, Hood Canal summer chum and Puget Sound chinook are listed as threatened under the federal Endangered Species Act.

"The process and the project worked really well," Ereth said. "The main goal from the tribe's point of view is to maintain that forest land because forests are the best things for fish. We want to keep it a forest forever and keep these streams productive and full of fish."

Tom Edwards, a Lummi tribal member and a tribal TFW technician, points out a site where culturally significant artifacts — including tools and the skeleton of a whale — were returned to the earth. Photo: J. Shaw

Lummi Nation:
Cultural Resources

"Cultural sites like these are non-renewable resources," says Lummi Nation Timber/Fish/Wildlife Technician Tom Edwards, motioning with his hand across the expanse of a forest along Lake Whatcom.

Within a few acres from where Edwards is standing, Lummi tribal members have gathered tree bark for medicinal purposes and traditional regalia since before recorded history began. The ancient practice continues to this day on this same site.

But there are also economically valuable cedar trees here, as well as throughout the Lake Whatcom watershed, that local timber companies long to harvest. Balancing those desires with the fundamental cultural needs of treaty Indian tribes like the Lummi Nation is what the Timber Fish and Wildlife process is all about. The Lummi TFW staff strive to ensure that local economic development does not destroy invaluable cultural resources.

It's a big job – Lummi reviews about 4,000 forest practices applications every year – and people like Edwards are doing it, monitoring and analyzing the potential impacts of lumber operations on areas of historical, archaeological and cultural significance. It's also a crucially important job.

"The continued destruction and desecration of these places impacts the ability of our younger generation to practice our way of life – a way of life we've been practicing since time immemorial," Edwards said. That's one reason the Lummi Nation has such a passion for saving sites that their ancestors used. One recent expedition revealed an totem pole estimated to be 20,000 years old; another uncovered a battle site stocked with myriad artifacts such as hatchets, arrowheads, and arrows. To allow these sites to be disturbed is, in a word, unthinkable to the Lummis.

Though preserving artifacts like arrowheads, ancient petroglyphs and stone tools is an important part of the work, it isn't nearly everything. Using information compiled from Lummi elders, tribal staff look for evidence of cultural practices such as hunting, fishing and gathering – that are still protected by treaty today – so that they can be protected before timber harvesting occurs.

"Everything is connected: land, water, earth, plants, wildlife," Edwards says. "Disrupt one of them, and all of them become unbalanced – and that brings hardship to the people. We try to stop those disruptions from happening."

For example, many of the forest practice applications Lummi looks over have the potential to hurt supplies of culturally important plants that are used for medicines and ceremonies. Every wetland that disappears is a blow to the tribe.

"We're starting to see our wetlands disappear now," said Edwards, "and those places are where our culturally significant plants grow. That's devastating to our culture."

Sometimes, documentation of cultural relics or practices on a site stops a logging operation. Much more often, though, the Lummis work with timber companies to avoid impacts to cultural sites.

The Timber, Fish and Wildlife Process has made this work easier.

"In the past, it was much more difficult to reach agreements. Others didn't understand the importance of cultural resources as well as they do now," said Edwards. "There is still a lot of work to do in terms of increasing understanding, but we've made progress. And any progress towards protecting these sites is valuable."

Through the TFW/FFR ID team process, this forested wetland on the Olympic Peninsula received additional protection from the effects of a nearby timber harvest. Photo: J. Silver

Hoh Tribe:

Interdisciplinary Team Participation

The Timber Fish Wildlife (TFW)/Forests and Fish rules provide opportunity for tribes to participate in the review process that occurs before a forest practice application is approved.

This is important to all tribes because timber harvest and associated activities such as road building have the potential of affecting salmon harvest by impacting the resources that produce fish. As co-managers of the salmon resource, the tribes are entitled to 50 percent of the harvestable salmon resource.

The Hoh Tribe's reservation, like that of all Olympic Peninsula coastal tribes, is located at the mouth of a river, the Hoh River. The tribe fishes for salmon and steelhead produced in the Hoh River watershed. All activities on upstream ownership throughout the watershed have the potential to impact the tribe's salmon harvest. Forest practices take place on 40 percent of watershed, making it critical that tribes are able to participate in the review process of particular forest management activities by state, federal or private entities.

"The tribe co-manages the fisheries resource through harvest negotiations and regulations as well as biological information – but harvest is only the end result of fish production," said Jill Silver, habitat biologist for the Hoh Tribe. "TFW allows us to interact with all those entities conducting land use that might impact the resource that produces that harvest."

Forest practices can impact salmon habitat in a number of ways. Cutting of streamside trees results in removal of important stream shade that helps to regulate water temperature that affects salmon survival. Taking those trees also takes wood that the stream might otherwise incorporate, producing habitat important for fish. Tree removal can also reduce the production of insects that are food for fish and increase delivery of sediment that can suffocate salmon eggs. The cutting of trees also alters the way a landscape releases water into the river system. Rather than a controlled release over time, water rushes through a treeless landscape into the system, causing floods that scour salmon eggs from their nests. The dense road networks that often accompany forest practices can channel water that causes increased flows and erosion, thereby increasing sediment into streams and concentrating runoff that would be otherwise be more slowly dispersed throughout the watershed.

Tribes and their biologists have extensive information on where fish can be found seasonally and where important habitat is located, information that regulators or timber companies may not have. When the tribe receives a forest practices application, biologists look at it for accuracy of water location and classification based on fish use, assessing the potential impacts on fish or their habitat by the forest practice. "For instance, if someone is building a road and they don't have a stream correctly mapped as a fish-bearing stream, we are able to bring that information forward through the review process so the road crossing is properly constructed to allow fish passage," said Silver.

As an example, the Hoh Tribe reviewed a recent forest practices application in which the harvest area included stream-associated wetlands. The timber sale was also located above a large pond used by rearing chinook, coho, steelhead and trout. The wetlands weren't identified in the application as fish habitat, and the landowners weren't aware of the downstream pond and its sensitivity to sediment delivery.

The tribe suggested that an Inter-disciplinary (ID) team needed to be called together to discuss the missing information. ID team meetings are called by the state Department of Natural Resources (DNR) and are made up of regulatory agencies and scientists with the qualifications necessary to evaluate forest practices plans. The ID team was able to make changes to the proposed operation that provided improved protection for the fish and water resources. "Through the TFW review process, the Hoh Tribe is able to communicate to all of the agencies and landowners who regulate or whose operations have the potential to affect tribal fisheries," said Silver. "Through TFW, we map, we monitor, we inventory, we advocate and we educate."

Upper Columbia United Tribes:

Perennial Initiation Point Surveys

When Grand Coulee Dam was built in the 1930s, it severed the Indian people of the upper Columbia River from the salmon they have always depended on. Despite having not seen salmon in the upper Columbia for over 70 years, the tribes that make up the Upper Columbia United Tribes – the Spokane, Colville and Kalispel in Washington, along with the Kootenai and Coeur d' Alene tribes in Idaho – are working to ensure when salmon do come back, they will have the habitat they need to survive. Further, working to restore and maintain healthy, clean waters is important to the wide range of fish, wildlife, plant life and human life in the river system.

UCUT staff obtain gravel samples from a stream, checking for spawning suitability, sediment levels and other factors. Photo: P. Peterson

“In the millenia since the tribes began harvesting salmon, dams have been here for a mere tick of the clock. It’s our job to ensure when fish do return, they will have a productive habitat to come back to,” said Pete Peterson, Forest Practices Coordinator for UCUT.

“It was apparent to us that to satisfy the tribal concerns of cool clean year round water, we needed to understand our headwater streams,” said Peterson. “Also, it is critical to determine the make up for healthy riparian habitat under current circumstances.” So, the tribes have been active participants in the statewide perennial initiation point project (PIP) in search of headwater stream data. They have also initiated a riparian characterization inventory to gather baseline data for functioning fish habitat.

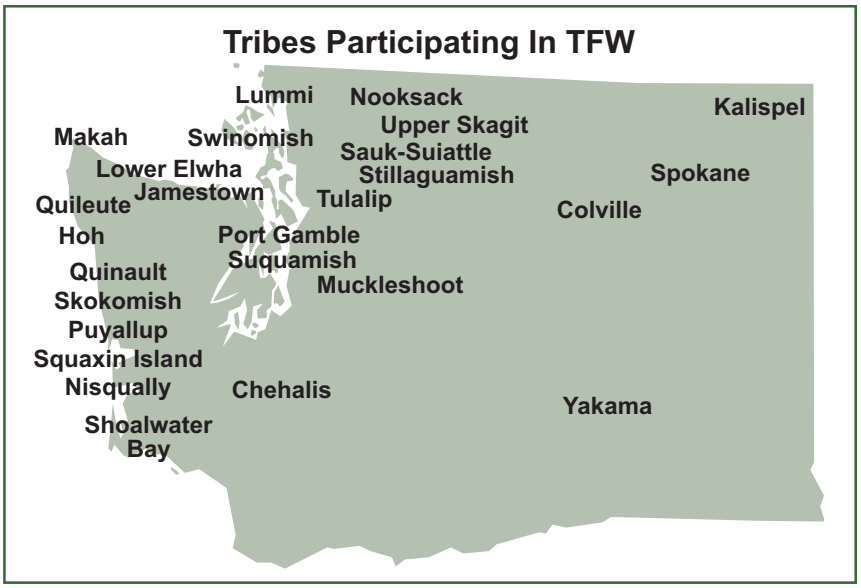
By monitoring and taking inventories of different habitats, the tribes are laying the groundwork for future habitat restoration work. “When salmon return, they aren’t going to see a pre-European inhabited type forest,” said Peterson. “For example, forest fires have been suppressed here for almost a century, and aggressive timber harvest practiced for nearly that long. The beaver are all but gone. Those changes have has produced a unique forest.”

How forests in northeastern Washington have changed will have a lot to do with how well salmon do when they return to the upper watershed, said Peterson. “Some people say that there isn’t such a thing as natural habitat in eastern Washington because of fire suppression. While that may be true, there are still a number of tools available to enhance what we do have today”

“What we want to answer is what kinds of forests can we have today? That question is at the heart of our pursuit,” said Peterson. “Timber harvest is part of the future here, but so is putting more wood in streams, creating shade and augmenting flow.” That could take the form of re-introducing beavers in the upper watershed or building engineered logjams in various streams. Of course, healthy stands of trees in the adjacent stream area are necessary for all aspects of water quality and healthy habitat. Return of the anadromous fish will begin replenishing the nutrient supply for fish food and tree growth; shade will help moderate water temperatures.

UCUT will continue to work with in the Adaptive Management Program of the Forest and Fish Report to validate current timber harvest practices regarding the goals set forth in that document. That effort has brought forward the opportunities of PIP and other studies and will continue to contribute to the knowledge base necessary create and maintain salmon-friendly habitat.

Tribes and Tribal Organizations Participating In TFW/FFR



Participating individual tribes include: Chehalis Tribe, Colville Confederated Tribes, Hoh Tribe, Jamestown S'Klallam Tribe, Kalispel Tribe, Lower Elwha Klallam Tribe, Lummi Nation, Makah Nation, Muckleshoot Tribe, Nisqually Tribe, Nooksack Tribe, Port Gamble S'Klallam Tribe, Puyallup Tribe, Quileute Tribe, Quinault Indian Nation, Sauk-Suiattle Tribe, Shoalwater Bay Tribe, Skokomish Tribe, Spokane Tribe, Squaxin Island Tribe, Stillaguamish Tribe, Suquamish Tribe, Swinomish Tribe, Tulalip Tribes, Upper Skagit Tribe, and the Yakama Nation. Participating tribal organizations include: Skagit System Cooperative, Upper Columbia United Tribes, and Northwest Indian Fisheries Commission.

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